

S.D.E.

**B.B.A. (2006 COURSE) SEM-VI : SUMMER - 2018**  
**SUBJECT: ELECTIVE -III: e) OPERATING SYSTEM (SYSTEMS)**

Day: **Wednesday**  
Date: **06/06/2018**

**S-2018-4332**

Time: **10.00 AM TO 1.00 PM**  
Max. Marks: 80

**N.B.:**

- 1) Attempt any **FIVE** questions from Section -I and any **TWO** questions from Section -II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in the **SEPARATE** answer books.

**SECTION-I**

- Q.1** Define structure of operating system in detail. (10)
- Q.2** Explain the concept of process in detail. (10)
- Q.3** Explain the concept and need of "Virtual Memory". (10)
- Q.4** Explain different file organization techniques in detail. (10)
- Q.5** Explain principles of input output hardware. (10)
- Q.6** Explain deadlock in detail. (10)
- Q.7** Write short notes on: (10)
- a) Multitasking operating system
  - b) File descriptor

**SECTION-II**

- Q.8** What is the need for synchronization? How semaphores help synchronization. (15)
- Q.9** Calculate average waiting time using FCFS and SRTN algorithm. (15)

Process	CPU burst Times
P <sub>1</sub>	5
P <sub>2</sub>	6
P <sub>3</sub>	8
P <sub>4</sub>	3

Note: Quantum = 3

- Q.10** Differentiate between : (15)
- i) Direct memory access and indirect memory access.
  - ii) Memory management with swapping and without swapping.

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